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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/008,448	12/07/2001	Keisuke Asami	10830-082001/A36-137195M/	5082
26211	7590	02/24/2004	EXAMINER VY, HUNG T	
FISH & RICHARDSON P.C. 45 ROCKEFELLER PLAZA, SUITE 2800 NEW YORK, NY 10111			ART UNIT 2828	PAPER NUMBER

DATE MAILED: 02/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/008,448

Applicant(s)

ASAMI, KEISUKE

Examiner

Hung T Vy

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 24 December 2003.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-7 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-7 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

*Paul Ip*  
*SPR 2004*

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

### DETAILED ACTION

1. In response to the amendment file on 12/24/2003, claims 1-7 are pending in this application.

### Claim Rejections - 35 U.S.C. § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, and 3-7 are rejected under 35 U.S.C. 103 (a) as being unpatentable over admitted prior art Figs 7 and 8 in view of Fig. 6.

Regarding claims 1, 3, 6, Admission discloses a wavelength tunable light source comprising: a semiconductor laser (1) in which one of end surface is applied an anti-reflection film; a lens (5,6); a wavelength selection portion including a diffraction grating (2) and a mirror (3); and a motor (23), wherein a light beam is emitted from the one of end surfaces; the lens collimates the light beam; the wavelength selection portion selects a light beam having desired wavelength from the collimated light beam to return the selected light beam to the semiconductor laser so that laser oscillation occurs; a center of rotation of the mirror is provided in a position where mode hopping is suppressed when a wavelength in the laser oscillation is tuned (See fig. 7,8), it would

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have been obvious at the time the invention was made to a person having ordinary skill in the art to modify rotation of the mirror is driven by a direct system by using the motor (using in fig. 6 to rotate the mirror) having a rotation shaft (22 in fig. 7 or 8) in the center of rotation of the mirror (See fig. 7-8) because those skilled in the art will recognize that such modification and variations can be made to get continuous wavelength scanning without departing from the spirit of the invention. Applicant admits that the prior art disclose every thing as fig. 6-8 except for a rotation of the mirror is driven by direct drive system by using the motor having a rotation shaft in the center of rotation of the mirror, even though on fig 7-8, the prior art discloses the direct drive motor (23) and a rotary arm (22) that working the same function as invention as motor having a rotation shaft in the center of rotation of the mirror.

Regarding claim 4-5 and 7, Admission discloses the claimed invention except for the motor is a servo-motor, or a voice coil motor. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have a servo-motor, or a voice coil motor, since it has been held that rearranging parts of an invention involves only routine skill in the art. In re Japikse, 86 USPQ 70.

3. Claim 2 is rejected under 35 U.S.C. 103 (a) as being unpatentable over admitted prior art Figs. 7 and 8 in view of Fig. 6 and further in view of Asami, U.S. Patent No. 6,295,306.

Regarding claim 2, Admission discloses all limitation of the wavelength tunable light source accept an optical branching device provided between the semiconductor

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laser and the diffraction grating but Asami disclose an optical branching device provided between the semiconductor laser (210) and the diffraction grating (250) for taking out a part of the selected light beam, wherein the light beam taken out by the optical branching device is used as an output light beam (261)(See fig 2). It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify Admission to have an optical branching device as taught by Asami because those skilled in the art will recognize that such modification and variations can be made to get continuous wavelength scanning without departing from the spirit of the invention.

4. Claims 1, and 3-7 are rejected under 35 U.S.C. 103 (a) as being unpatentable

over admitted prior art <sup>*Figs. 7 and 8.*</sup> (Admission) in view of Nishikawa et al. U.S. Patent No.

6,333,910. or Tuganov et al., U.S. Patent No. 6,434,173.

Regarding claims 1, 3, 6, Admission discloses a wavelength tunable light source comprising: a semiconductor laser (1) in which one of end surface is applied an anti-reflection film; a lens (5,6); a wavelength selection portion including a diffraction grating (2) and a mirror (3); and a motor (23), wherein a light beam is emitted from the one of end surfaces; the lens collimates the light beam; the wavelength selection portion selects a light beam having desired wavelength from the collimated light beam to return the selected light beam to the semiconductor laser so that laser oscillation occurs; a center of rotation of the mirror is provided in a position where mode hopping is suppressed when a wavelength in the laser oscillation is tuned (See fig. 7,8), but the prior art does not disclose rotation of the mirror is driven by a direct drive system by using the motor having a rotation shaft in the center of rotation of the mirror. However,

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Nishikawa et al. or Tuganov et al. discloses rotation of the mirror (31 in Nishikawa et al. or 1126 in Tuganov et al.) is driven by a direct drive system by using the motor having a rotation shaft (3 in Nishikawa et al. fig. 1 or fig. 4) or (1118 in Tuganov et al. fig. 11). It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify Nishikawa et al. or Tuganov et al. to have rotation of the mirror is driven by a direct system by using the motor having a rotation shaft in the center of rotation of the mirror because those skilled in the art will recognize that such modification and variations can be made to get continuous wavelength scanning without departing from the spirit of the invention.

### **Response to Arguments**

5. Applicant's arguments filed on 12/24/2003 have been fully considered but they are persuasive. The rejection has been withdrawn.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hung Vy whose telephone number is (571) 272-1954. The examiner can normally be reached on Monday-Friday 8:30 am - 5:30pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul IP can be reached on (571) 272-1941. The fax numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and (703) 308-7722 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Hung T. Vy  
Art Unit 2828  
February 13, 2004

*Paul Jp*  
*SPE 2828*